

Serial No.: 09/423,916

Attorney

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REMARKS

Favorable action on the above-identified patent application, as respectfully requested.

This Amendment is in response to the Office Action dated February 16-30, and 33-46 are currently pending in this application. Claims 1-13 are cancelled, and claims 14, 15, 31 and 32 are cancelled herein. Claim 33-46 are claims, only claim 46 is independent.

In the Office Action, claim 30 was rejected as being indefinite in its second paragraph, for failing to particularly point out and distinctly define the invention which applicant regards as the invention. Specifically, the phrase "elastically damped" is unclear. Accordingly, claim 30 is amended to read "the first material and said second material are rigidly connected to each other to resist thrust loading" to further clarify the invention. Support for this can be found at page 15, lines 27-28.

In the Office Action, claims 14-39, 44 and 45 were rejected as being obvious over Tigliev (US 5,609,316) in view of Motoda et al. (US 4,047,731); claims 40 and 41 as being obvious over VanAuken (US 4,047,731); claims 40 and 41 as being obvious over VanAuken in further view of VanAuken and in further view of Yanovich et al. (US 4,047,731); claim 42 as being obvious over Tigliev in view of Motoda, in further view of Hoppl et al. (US 3,637,233). The rejection of the claims is hereby traversed.

In rejecting the claims, the Examiner cited Tigliev in view of the newly cited Van Auken. The rejection relies on Tigliev's disclosure of a plurality of support members (30, 34, 40) which are connected to a stress-free connection between the adjacent parts of the structure.

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does not specifically disclose tubular support members. Therefore, Motoda for its teaching of a support member (36) that is not a tubular member. However, the nature of the internal structure is never described. In fact, states, Motoda, either alone or in combination with Tigliev, "a support member[s] with first and second concentric tubes, the first tube having a substantially different moduli of elasticity." Therefore, Auken for its teaching of "first (the aluminum core) and second (the surrounding reinforced plastic) that are rigidly connected to each other and elastically damped."

It is respectfully submitted that Van Auken, either alone and/or Motoda, does not teach or suggest:

"first and second concentric tubes form materials, respectively, wherein *one materials is fiber-reinforced plastic, and second materials is metal* with a comp elasticity relative to that of said one materials"

as required by independent claim 46.

The inventive support members are formed of "said first and second materials" where one of "said first and second materials" is, for example, aluminum. Another of "said first and second materials" is, for example, a plastic material.

The invention, according to claim 46, clearly shows specification at page 4, lines 7-9, which reads: "One or more strength stand tubes made of fiber composites by combining another supporting material having a substantially different elasticity."

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See, also, the specification at page 4, line 27, through

"...[T]he combination according to the combination of tubular parts, such as a segment which is cemented to an inner or outer part could even be...an aluminum tube to which tube is cemented so that it becomes (metal/plastic or plastic/metal, or comparable repeating the two materials)."

As stated on page 5, lines 15-17 of the specification plastic material. This is then wrapped by a fiber material lines 17-18. As shown in Fig. 3, fibers 98 are wound around composite tube (97a). The "fiber-reinforced tube" taught in composite tube 97a of the invention. However, the specification 97a is combined with an aluminum tube 97b or with another modulus of elasticity." See the specification at page 15, line 15.

As is clearly shown in Fig. 4, the composite tube 97a is in concentric alignment with tube 97b, which may be, for example,

In contrast, Van Auken merely teaches a single fiber-reinforced plastic gore. Van Auken discloses "the tube 30 thereof a fiber-reinforced plastic skin." See column 2, line 30. The tube 30 is wrapped with a gore (31). See column 3, lines 29-30. There is no teaching or suggestion in Van Auken that the tube 30 is concentric with a second tube, and the second tube has a modulus of elasticity with respect to the first tube.

There is no teaching or suggestion in Van Auken that the tube 30 is formed of first and second materials, respectively, where the first material is fiber-reinforced plastic, and another of said first or second

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comparatively low modulus of elasticity relative to that of said materials," as required by claim 46.

Furthermore, nowhere does the combination of Tigliev suggest "at least one interface divides at least one of said plurality of support member segments" as required by claim 46.

Fig. 2 shows examples of interfaces 96a, 96b, and 96c which divide said plurality of support members into a pair of support member segments. For example, interface 96a divides support member 1a into segments 1a and 1b. See, also, the specification at page 10. The interfaces 96 may divide axially aligned support member segments.

Nowhere does the prior art teach or suggest "at least one interface divides at least one of said plurality of support members into a pair of support member segments" as required by claim 46.

Applicants respectfully submit that the prior art does not teach or suggest the specific combination of features set forth in claim 46.

Accordingly, it is respectfully submitted that the combination of Tigliev, Motoda and Van Auken. Applicant respectfully submits that one of ordinary skill in the art would not arrive at the invention as claimed.

- "at least one of said plurality of support members is formed of concentric tubes formed of first and second materials, wherein the modulus of elasticity of said first and second materials is metal with a modulus of elasticity relative to that of said one of said first and second materials."

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- "at least one interface divides at least one into a pair of support member segments."

as required by claim 46.

As claims 16-30 and 33-45 ultimately depend from are not rendered obvious by the prior art of record. It is of the claims under 35 U.S.C. 103(a) be withdrawn.

The indication of allowable subject matter in claim Since reconsideration is being requested herein with respect to claim 43 ultimately depends, claim 43 has not been rewritten.

In view of the foregoing, it is respectfully submitted that the Office Action has been made. The claims, as amended, are in compliance with the requirements of the statute for allowance. Early and favorable action is respectfully requested.

It is also submitted that no fees are required. I am not authorized to charge any fees due as a result of this Amendment. The undersigned.

Respectfully,
HODGSON RUSS
Attorney

By: _____

Date: May 23, 2003

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